

high steep bluffs the material composing half a dozen geologic formations are exposed to view, the oldest, the Potomac gravel, sands and clays, lying at the bottom on the irregular surface of granite and slates; cretaceous sands and clays; tertiary (eocene and miocene) marls and clays; the Lafayette yellow and brownish sands and loams; and the Columbia sands, gravels and clays, lying one successively above the other—the last of these, the youngest of all, being on top. Along the western border of these Coastal Plain formations occasional outcrops of hard granites and slates are exposed along the beds of streams where the once overlying sands and clays have been washed away, but besides these no large masses of hard rock are to be found in this region other than the limited beds of limestone which are exposed along the banks of the streams in a number of eastern counties, especially in the southern portion of the state.

In these southeastern counties, the limestone is exposed at the surface along the banks of the streams in a large number of localities, and this rock may be used for the making of lime, macadamizing roads, and in some cases it will do for building purposes. In a few places, as in the neighborhood of Castle Haynes, New Hanover county, this limestone contains numerous phosphate pebbles and over considerable areas the limestone has dissolved away and left the phosphate pebble in form of phosphate gravel, which has been worked for a number of years, and can be worked with equal success on the adjoining Hermitage property. Other phosphate deposits have been found in Duplin, Pender, Onslow and Brunswick counties.

In the Piedmont Plateau region, the geology is much more complex. There are, however, two narrow belts of comparatively recent rocks; the triassic or red sandstone, the general outlines and location of which are best indicated on the accompanying map. The more eastern of these two belts, extending from Oxford, in Granville county, across the state through portions of Wake, Durham, Chatham, Moore, Montgomery, Richmond and Anson counties, has a maximum width of about 15 miles. In this formation are found the coal deposits of Moore and Chatham counties and the valuable beds of red, gray and brown sandstone, which are described more fully under head coal and of building stone. The more western of these two belts is much more limited in area, extending from the Virginia line across portions of Rockingham and Stokes counties, and having a maximum width of four or five miles.

The older crystalline rocks, (granites, gneisses and slates), extend in belts of varying width and length obliquely across the state having a general northeast and southwest course. The most marked of these